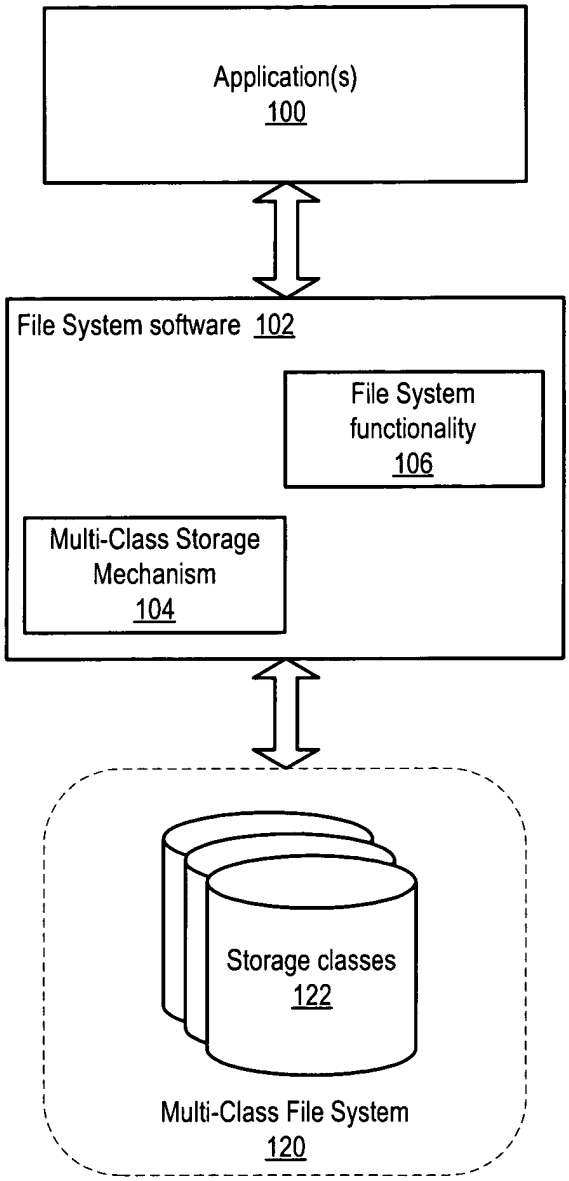
Application(s)
100
File System software 102
File System functionality
106
Multi-Class Storage Mechanism
104
Storage classes
122
Multi-Class File System
120

FIG. 1

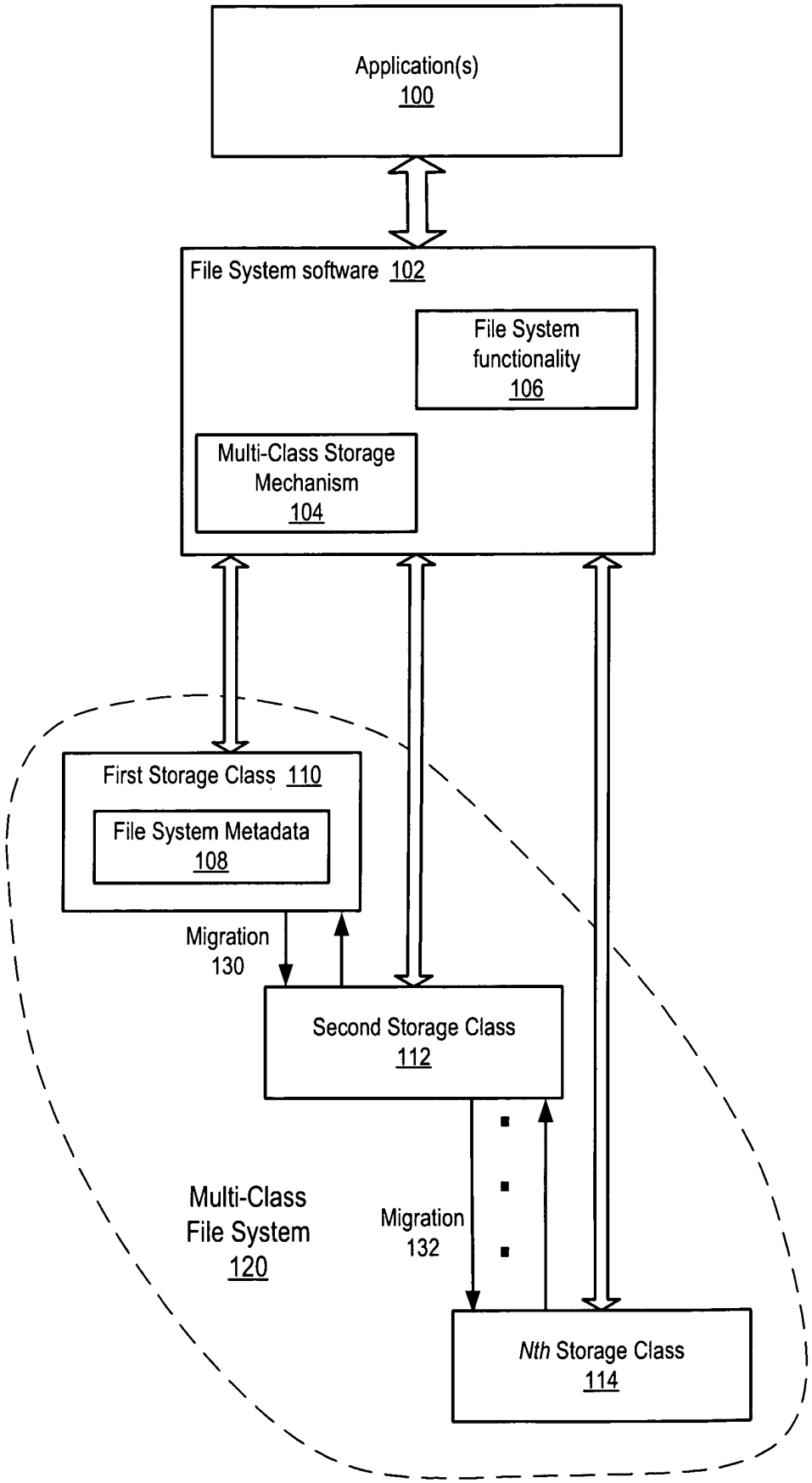
Application(s)
100
File System software 102
File System functionality
106
Multi-Class Storage Mechanism
104
First Storage Class 110
File System Metadata
108
Migration
130
Second Storage Class
112
Multi-Class File System
120
Migration
132
Nth Storage Class
114

FIG. 2

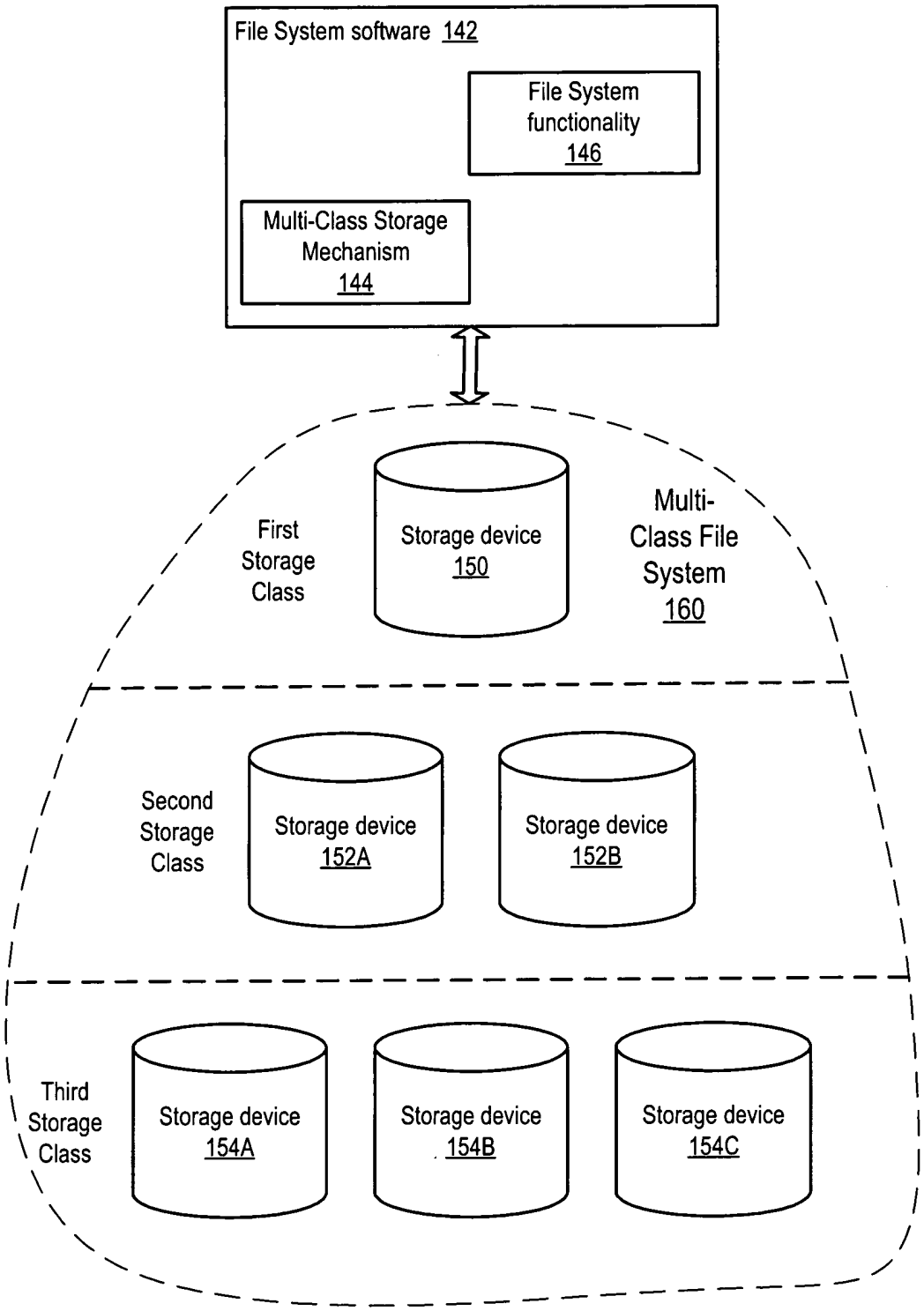
File System software 142
File System functionality 146
Multi-Class Storage Mechanism 144
First Storage Class
Storage device 150
Multi-Class File System 160
Second Storage Class
Storage device 152A
Storage device 152B
Third Storage Class
Storage device 154A
Storage device 154B
Storage device 154C

FIG. 3

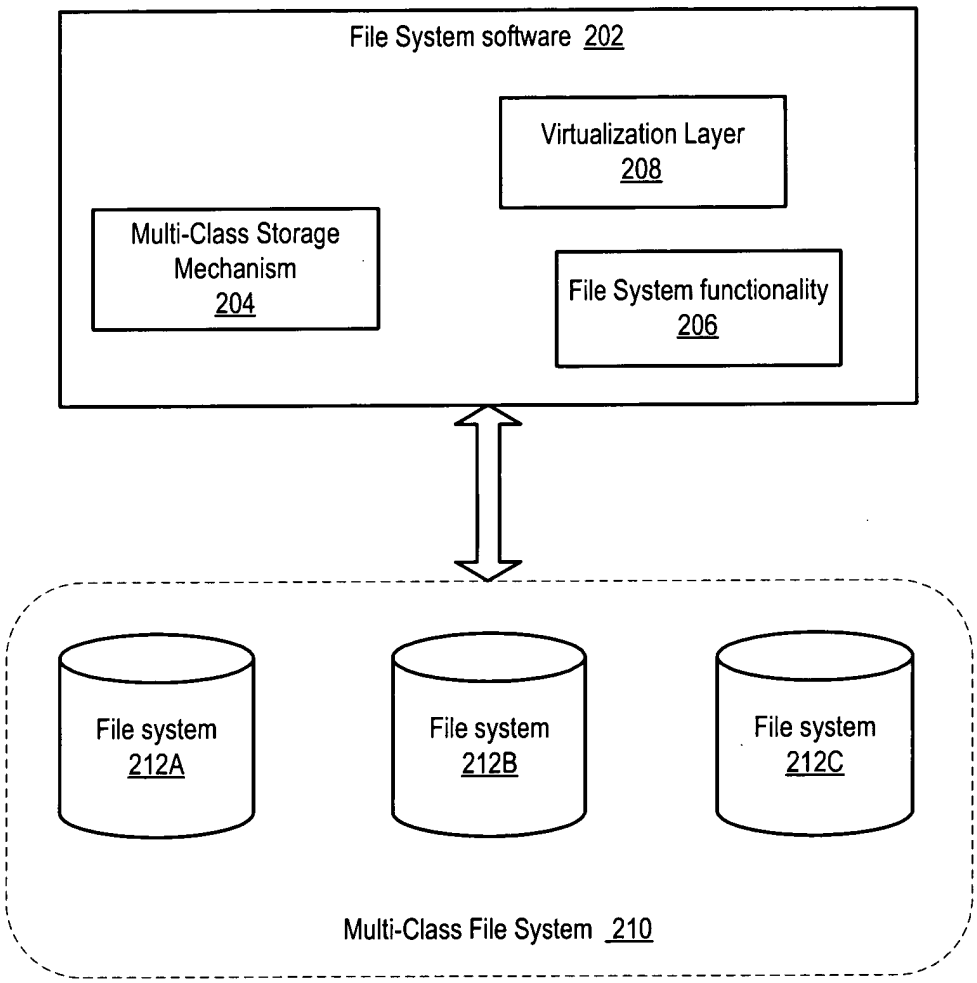
File System software 202
Virtualization Layer
208
Multi-Class Storage
Mechanism
204
File System functionality
206
File system
212A
File system
212B
File system
212C
Multi-Class File System 210

FIG. 4

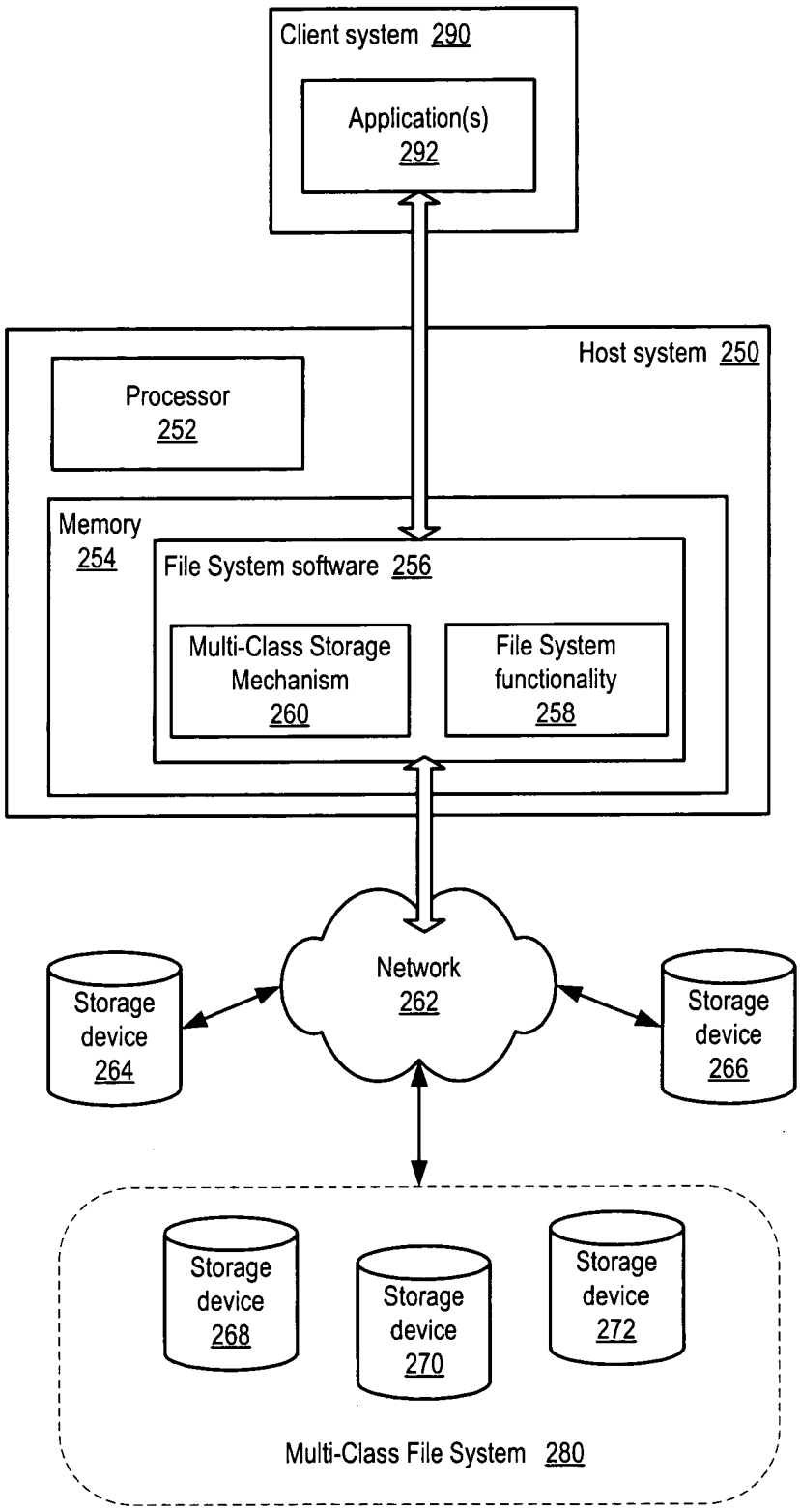
Client system 290
Application(s) 292
Host system 250
Processor 252
Memory 254
File System software 256
Multi-Class Storage Mechanism 260
File System functionality 258
Network 262
Storage device 264
Storage device 266
Storage device 268
Storage device 270
Storage device 272
Multi-Class File System 280

FIG. 5

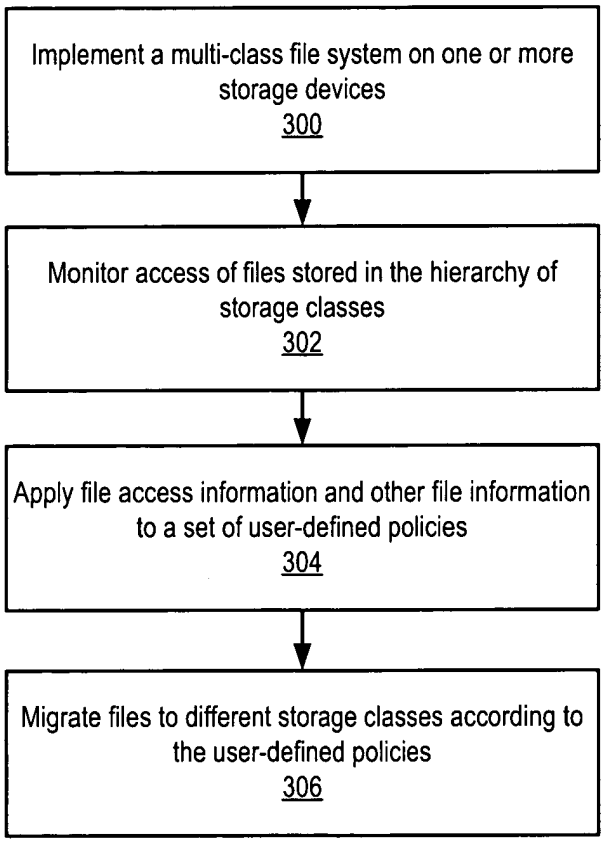
Implement a multi-class file system on one or more storage devices
300
Monitor access of files stored in the hierarchy of storage classes
302
Apply file access information and other file information to a set of user-defined policies
304
Migrate files to different storage classes according to the user-defined policies
306

FIG. 6

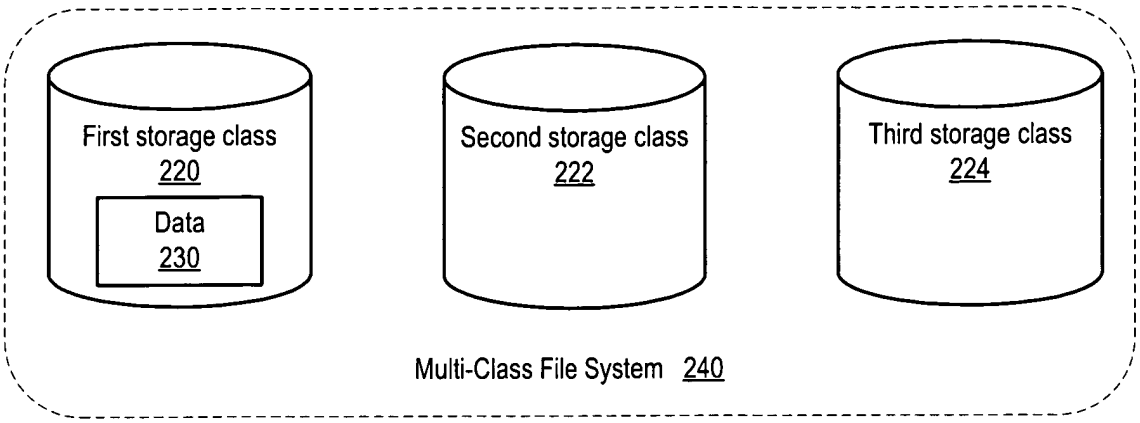

FIG. 7A

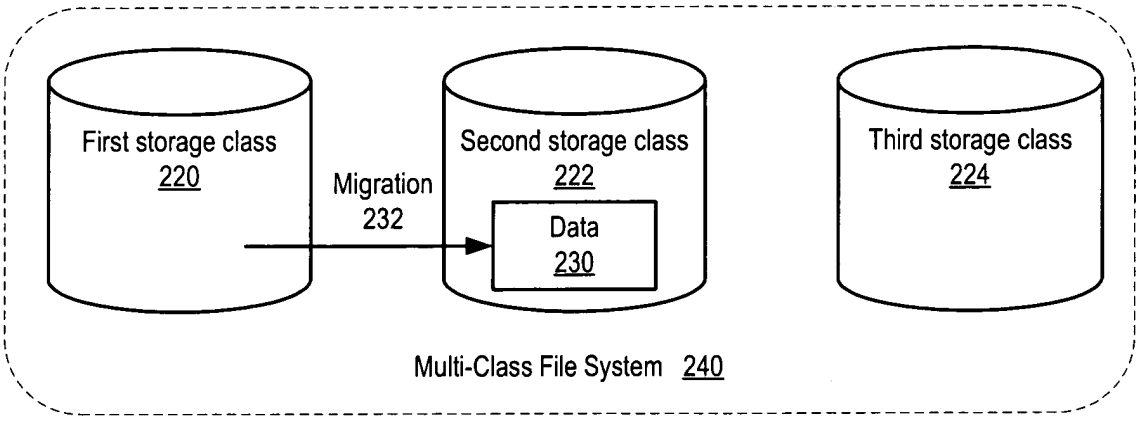

FIG. 7B

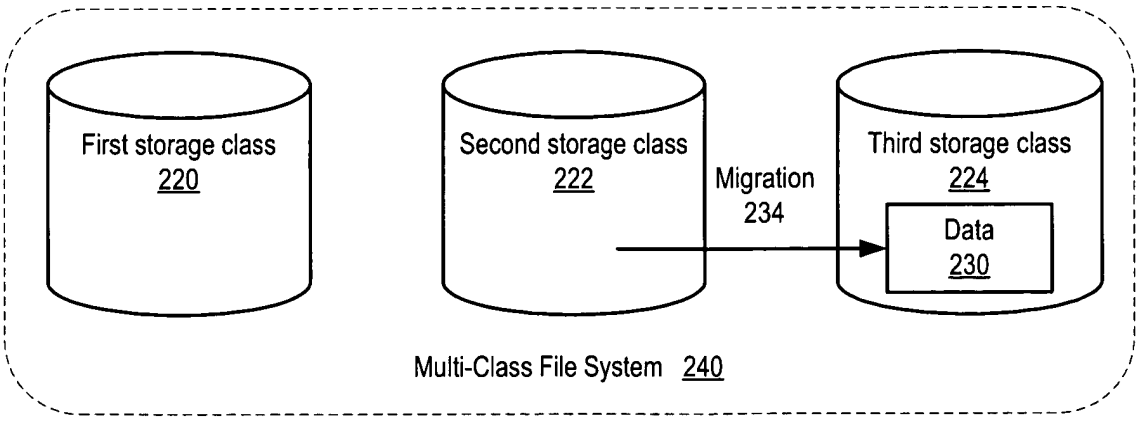

FIG. 7C

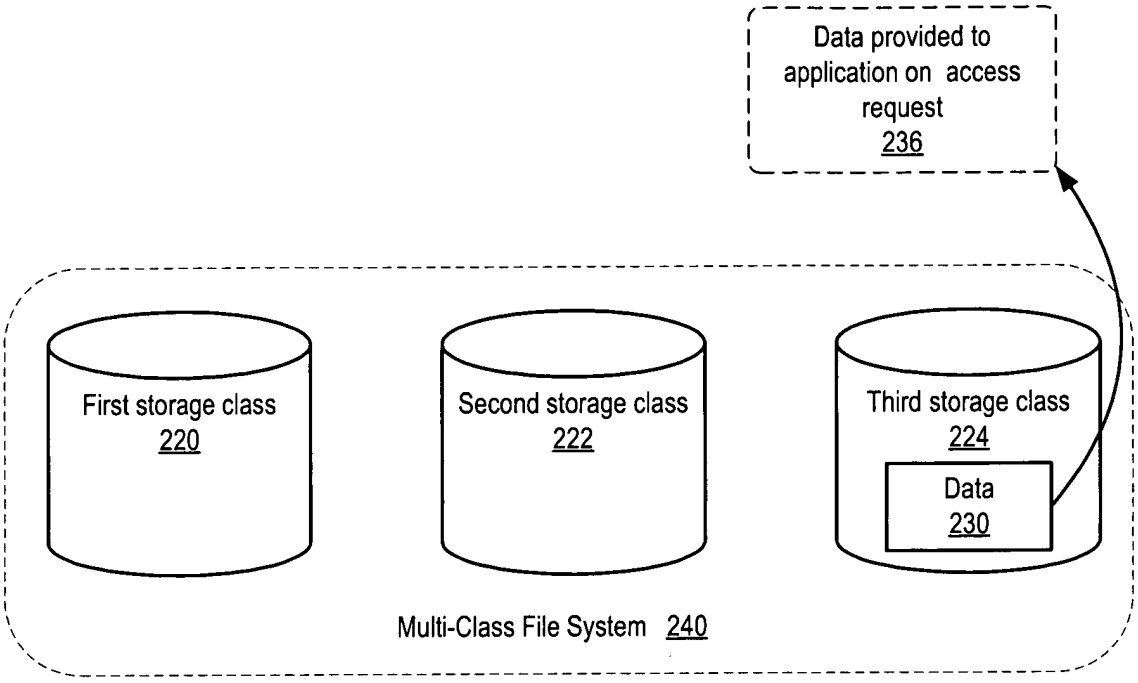
Data provided to application on access request 236
First storage class 220
Second storage class 222
Third storage class 224
Data 230
Multi-Class File System 240

FIG. 7D

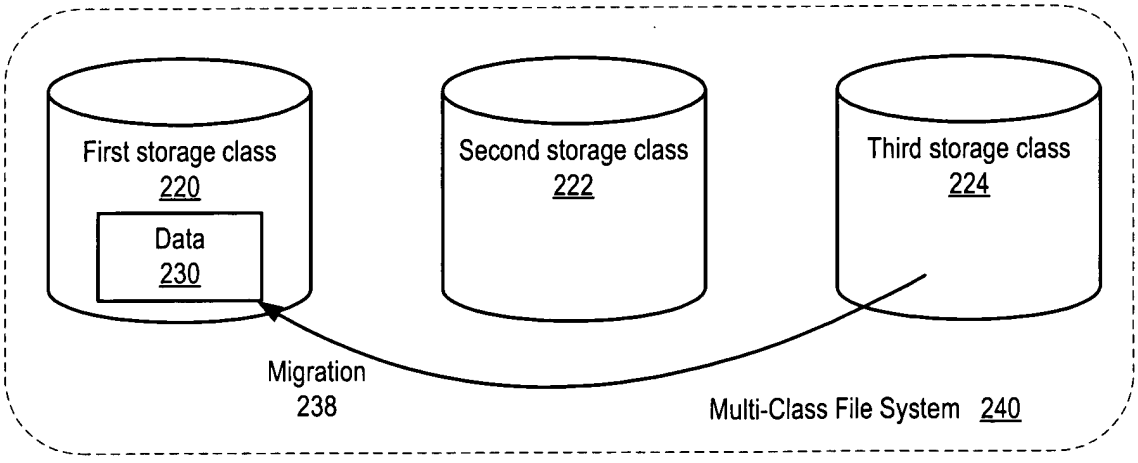
First storage class 220
Data 230
Second storage class 222
Third storage class 224
Migration 238
Multi-Class File System 240

FIG. 7E

MyDrive/MyFolder/MyFile	First Storage Class:Device:Block Number

FIG. 8A

MyDrive/MyFolder/MyFile	Second Storage Class:Device:Block Number

FIG. 8B

MyDrive/MyFolder/MyFile	Third Storage Class:Device:Block Number

FIG. 8C

MyDrive/MyFolder/MyFile	First Storage Class:Device:Block Number

FIG. 8D